What is morphine?

Morphine (INN) (MS Contin, MSIR, Avinza, Kadian, Oramorph, Roxanol, Kapanol) is a potent opiate analgesic medication and is considered to be the prototypical [opioid](http://en.wikipedia.org/wiki/Opioid).

Morphine is the most abundant alkaloid found in opium, the dried sap (latex) derived from shallowly slicing the unripe seedpods of the opium, or common or edible, poppy, Papaver somniferum. Morphine was the first active principle purified from a plant source and is one of at least 50 alkaloids of several different types present in opium, Poppy Straw Concentrate, and other poppy derivatives.  
Morphine has long been known to act on receptors expressed on cells of the central nervous system resulting in pain relief and analgesia.

What is it used for?

Morphine is regarded as the gold standard, or benchmark, of analgesics used to relieve severe or agonizing pain and suffering. Like other opioids, e.g. [oxycodone](http://en.wikipedia.org/wiki/Oxycodone) (OxyContin, Percocet, Percodan), [hydromorphone](http://en.wikipedia.org/wiki/Hydromorphone) (Dilaudid, Palladone), and diacetylmorphine (heroin), morphine acts directly on the central nervous system (CNS) to relieve pain.

What is heroin?

Heroin, or diacetylmorphine (INN), also known as diamorphine (BAN), is a semi-synthetic opioid drug synthesized from morphine, a derivative of the opium poppy.

What do you know about it?

Heroin is used as both an analgesic and a recreational drug. Frequent and regular administration is associated with tolerance and physical dependence, which may develop into addiction.



Questions:

What do they have in common?

Both are used as analgesics; used to relieve severe pain and suffering.

What functional groups?

Morphine: allylic alcohol, ether, amine and phenol

Heroin: esther, ether and amine

Use the following references:

Morphine, see http://en.wikipedia.org/wiki/Morphine

Heroin, see http://en.wikipedia.org/wiki/Heroin

http://www.chemistry-drills.com/functional-groups.php?q=simple